

SOLID WASTE DEFINITION SUBGROUP

November 3 & 4, 1997

Washington, DC

DECISIONS

- The subgroup reached consensus on recommendations to the Coordinating Committee, as listed below.
- The subgroup discussed and edited a draft rationale for the recommendations presented by Jeff Shumaker. The rationale was developed by six subgroup members and handed out on November 3. Not all members had sufficient time to review and fully consider the rationale, and consensus was not reached. No alternative rationales were presented at the meeting. It was agreed to post the rationale on the TTN, acknowledging that it is not a consensus position. Other subgroup members were invited to write alternative rationales and provide them to EPA and ERG for posting on the TTN.

RECOMMENDATIONS FROM SOLID WASTE DEFINITIONS SUBGROUP

129 Solid Waste Definition

For the purpose of regulation under section 129, solid waste is sludge, garbage, refuse, and other discarded material including solid, liquid, semisolid, or contained gaseous material, which is burned. Materials, as listed below, burned for the primary purpose of recovering their chemical constituents are not solid waste. Fuels, as defined below, burned to recover energy are not solid waste.

Consensus concern: Agency to take comment on analogous processes to consider under the primary purpose and recovery criteria (i.e., Table C).

Table A includes those materials specifically listed as fuels, and Table B contains the criteria for characterizing a fuel if the material is burned for energy recovery and is not already listed in Table A. Materials listed in Table A or meeting the criteria in Table B are fuels and are, therefore, not a solid waste. Table C contains a list of materials burned primarily to recover its chemical constituents and is, therefore, not a solid waste.

Table A

The following materials are fuels (in alphabetical order):

Bagasse, meaning the solid material (principally cellulose fiber and pith from sugarcane) which is produced at sugarcane mills during the processing of the cane to produce sugar.

Biomass is any vegetative matter that recently was alive, including agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, wheat), orchard prunings, corn stalks, grass clippings, leaves, coffee bean hulls and grounds, etc. This definition does not include sewage sludge, fermentation tank bottoms.

Fossil fuels are coal, oil, and natural gas, as defined below:

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388-77, Standard Specification for Classification of Coals by Rank (IBR-see section 60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent-refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subject.

Natural gas means (1) a naturally occurring mixture of hydrocarbons and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquid petroleum gas, as defined by the American Society of Testing and Materials in ASTM D1835-82, Standard Specification for Liquid Petroleum gases (IBR-see section 60.17).

Oil means crude oil or petroleum or a liquid or gaseous fuel derived from crude oil or petroleum, including distillate oil (Nos. 1-4) and residual oil (Nos. 5 and 6).

Hydrogen

Wood Materials containing only natural levels of halogens, except railroad ties a pressure-treated wood.

Consensus concern: Keep the door open for evolving technology, *e.g.*, process-engineered fuels.

Consensus concern: Mixing in other materials with any fuel.

Consensus concern: Some feel that fuels exempt from the definition of solid waste in part 261 should be added to the list. Others feel that not all of these materials should be considered fuels.

Consensus concern: Pulp knots, broke, pulp rejects, paper rejects, clarifier sludge, and other nonrecyclable fiber were identified a potential fuels that need to be tested under the fuel specification requirement in Table B.

Consensus concern: Agreement could not be reached on adding used oil that meets the specifications of part 279.11 to the list of fuels. The suggested alternative was to apply the fuel specification requirement in Table B to used oil to determine its status.

Table B

Materials that are burned to recover energy and meet the following criteria are fuels:

BTU Content:

Alternative A: Have either a minimum BTU content of 2800 BTU/lb on an as-burned basis (reference: minimum BTU content of anthracite culm); or a minimum BTU content of 4000 BTU/lb on a dry basis (reference; non-recyclable wood fiber).

Alternative B: Minimum BTU content of 5000 BTU/lb as burned and able to sustain combustion.

Alternative C: Have sufficient BTU content of ensure a net positive heat value to sustain combustion without additional fuel-energy input beyond auxiliary fuel for startup. The sustainable combustion characteristic may be demonstrated in practice or based on combustion calculations.

Halogen Content:

Alternative A: There should be a separate halogen content for solid, liquid, and gaseous fuels. For solids, contain no more than 2 percent by weight chlorine. (Reference: chlorine content of wheat straw can exceed 3 percent and other biomass can contain 1-2 percent chlorine; dioxin primer indicated that excess chloride [i.e., in excess of the low stoichiometric levels needed to form dioxin] did not affect dioxin formation.)

Alternative B: Same as Alternative A, but contain no more than 1 percent by weight chlorine.

Alternative C: There should be a separate halogen content for solid, liquid, and gaseous materials. The specific limits should be based on typical levels of halogens found in a benchmark solid, liquid, and gaseous fuel.

Alternative D: There should be a separate halogen content for solid, liquid, and gaseous materials. The specific limits are to be determined.

Metals Content:

Alternative A: Contain a concentration of no more than the following:

Metal	Concentration	Reference
Arsenic	25	EPA Table 31, Coal, Site 114
Chromium	25	EPA Table 31, Coal, OFA Test
Cadmium	2.0	Part 279.11 spec. for used oil
Lead	40	EPA Table 31, Coal, Site 114
Mercury	0.3	EPA Table 31, Coal

Alternative B: Contain a concentration based on the used oil specifications of 279.11:

Metal	Concentration	Reference
Arsenic	5	279.11
Chromium	10	279.11
Cadmium	2	279.11
Lead	100	279.11
Mercury	0.3	EPA Table 31, Coal

Alternative C: There should be a separate metals content for solid, liquid, and gaseous materials. The specific limits should be based on typical levels of metals found in a benchmark solid, liquid, and gaseous fuel.

Alternative D: Contain a concentration of no more than the following based on the proposed comparable fuels exclusion (FR April 19, 1996), for the following metals: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, selenium, silver, thallium. (Concentrations to be determined.)

Concern: May want to consider limits for other constituents, such as nitrogen, dioxin, PCBs, and cyanide.

Table C

Materials burned for the primary purpose of recovering chemical constituents are: pulping liquors, spent sulfuric acid, and feedstock for the production of charcoal.

ACTION ITEMS

- EPA and ERG will post the agreed-upon recommendations on the TTN by Tuesday, November 11.
- Jan Connery, the facilitator, will write a short background section to be posted with the recommendations and forward it to EPA by noon on Friday, November 7. It will provide context for the recommendations including the subgroup charge, membership, number of meetings, and how the recommendations were arrived at.
- The draft rationale will be posted with the recommendations with a note that it was developed by six subgroup members and presented at the meeting, but consensus was not reached.
- Jane Williams and Dick Van Frank will consider preparing an alternative rationale for the subgroup's recommendations and will provide it to ERG by noon on Friday, November 7 so it can be posted on the TTN with the other materials.
- Jeff Shumaker and Dick Van Frank will present the subgroup recommendations at the November 18 and 19 Coordinating Committee meeting.

NEXT MEETING

None. The subgroup has concluded its charge.

ATTENDEES

Subgroup Members

David Cooper
Jim Eddinger
Chuck Feerick

Subgroup Members Continued:

Frank Ferraro
Mike Fisher
Dick Van Frank
Andy Roth
Jeff Shumaker
Mike Soots
Jane Williams

Observers

Jan Connery (facilitator)
Mary Beth Clary
Andy S. Counts
Leslye Fraser
Lee Gilmer
Ruth Mead
John Ogle
Fred Porter
Jim Stumbar